Amendments to the Claims:

Listing of the Claims

1. (original) The use of a linear peptide coupled to an active substance for diagnosis or therapy of a disorder affecting the CNS for the preparation of a medicine capable of passing through the hemato-encephalic barrier to be used for diagnosis or therapy of a disorder localized in the CNS, the said peptide satisfying one of the following formulas (I), (II) or (III):

X_1-X_2-X_3-X_4-X_5-X_6-X_7-X_8-X_9-X_{10}-X_{11}-X_{12}-X_{13}-X_{14}-X_{15}-X_{16} (I)

In formula (I), the residues X_1 to X_{16} are residues of amino acids, in which 6 to 10 of them are hydrophobic amino acids and X_6 is tryptophan,

BXXBXXXXBBBXXXXXXB (II)

BXXXBXXXBXXXXBBXB (III),

In formulas (II) and (III):

— groups B may be identical or different, and represent an amino acid residue for which the side chain carries a basic group, and

- groups X may be identical or different, and represent a residue of aliphatic or aromatic amino acid, or

the said peptides with formulas (I), (II), (III) in retro form, composed of amino acids with a D and/or L configuration, or a moiety of these acids composed of a sequence of at least 5 and preferably at least 7 successive amino acids of peptides with formulas (I),

(II) or (III).

2. (original) Use according to claim 1, characterized in that in peptides with formula 1 type (I), the hydrophobic amino acids are alanine, valine, leucine, isoleucine, proline, phenylalanine, tryptophan, tyrosine and methionine, and the other amino acids are:

– non–hydrophobic, possibly non–polar amino acids such as glycine, or polar such as serine, threonine, cysteine, asparagine, glutamine, or

– acid (aspartic or glutamic acid), or

– basic (lysine, arginine or histidine), or

– an association of amino acids in these three categories.

3. (original) Use according to one of claims 1 or 2, characterized in that the formula (I) type peptide includes 6 hydrophobic amino acids and 10 non-hydrophobic amino acids.

4. (original) Use according to claim 1, characterized in that in the peptides in formula types (II) and (III):

– B is chosen among arginine, lysine, diaminoacetic acid, diaminobutyric acid, diaminopropionic acid, ornithine and

– X is chosen among glycine, alanine, valine, norleucine, isoleucine, leucine, cysteine, cysteine^{Acm}, penicillamine, methionine, serine, threonine, asparagine,

glutamine, phenylalanine, histidine, tryptophan, tyrosine, proline, Abu, carboxylic amino-1—cyclohexane acid, Aib, carboxylic 2—aminotetraline, 4—bromophenylalanine, tert—Leucine, 4—chlorophenylalanine, beta—cyclohexylalanine, 3,4—dichlorophenylalanine, 4—fluorophenylalanine, homoleucine, beta—homoleucine, homophenylalanine, 4—methylphenylalanine, 1—naphthylalanine, 2—naphthylalanine, 4—nitrophenylalanine, 3-nitrotyrosine, norvaline, phenylglycine, 3—pyridylalanine and [2-thienyl]alanine.

5. (original) The use of compounds according to the formula (IV) below:

$$A\ (-)_m\ (B)_n \quad (IV)$$

where

— A is a peptide as described above in one of claims 1 to 4,

— B is a substance active in diagnosis or therapy for a disorder of the CNS,

— n is 1 or more, and preferably up to 10, and advantageously up to 5,

— $(-)_m$ represents the linker between A and B, where m is 1 or more, and preferably up to 10 and advantageously up to 5,

for the preparation of a medicine capable of passing through the hemato—encephalic barrier to be used in diagnosis or therapy for a disorder localized in the CNS.

6. (original) Use according to claim 5, characterized in

that in formula (IV), the $(-)_m$ linker between A and B is a covalent, hydrophobic or ionic linker, cleavable or non-cleavable in physiological media or inside the cells, or a mixture thereof.

7. (currently amended) Use according to claim 5 ~~one of claims 5 or 6~~, for the preparation of a medicine intended for the treatment or prevention of brain cancers, Alzheimer disease, Parkinson's disease, depression, pain, meningitis.

8. (new) Use according to claim 6, for the preparation of a medicine intended for the treatment or prevention of brain cancers, Alzheimer disease, Parkinson's disease, depression, pain, meningitis.